

REMARKS

In the Office Action mailed December 30, 2005, the Examiner rejected claims 92-98 as being obvious under 35 U.S.C. §103(a). The Examiner also requested that Applicants change the word "with" to "to" in line 15 of Claim 92. Applicants have amended claims 92 and 97 and have added new claims 99-116. In light of the claim amendments and the following remarks, Applicants respectfully request reconsideration and issuance of a notice of allowance. In addition, Applicants intend to request an in-person interview with the Examiner to discuss Applicants' claimed invention and how it differs from the cited art.

Applicants' Technology

Claims 92-116 set forth the limitations of the presently claimed invention. In general, Applicants' technology is directed to a system for providing telephony service across a packet-switched network, such as the Internet, so that a user can place a call from a user device located on the Internet to a second user accessible through a Public-Switched Telephone Network (PSTN). A gateway, which serves as the interface between the Internet and the PSTN, communicates using a native protocol, such as H.323, SIP, MGCP, or other standards-based protocol. To avoid the user device having to communicate using the native protocol, the user device may contain a downloadable call client. For independent claims 92 and 102, the user device communicates both media and call-control data in a non-native protocol with a Packet-switched Telephony Service Provider (PTSP), which communicates corresponding media and call-control data in the native protocol to and from the gateway. For independent claim 109, the user device communicates call control in the non-native protocol and media in the native protocol. To provide support for billing and authorization for the call, a call logger and database are also included in the system.

The amendment to Claim 92 further specifies that the call client includes a port scan module to identify Internet Protocol ports open for communication. This allows the media and call-control data to penetrate firewalls or Network Address Translation (NAT) devices that may exist on the Internet (or other network) between the call client and the PTSP. For example, specific ports can be opened/mapped for communication. Support for this amendment is provided by Applicants' specification at page 11, lines 1 and 2, for example. In addition, Applicants have amended line 15 of Claim 92 to change "with" to "to", in accordance with the Examiner's request. Applicants also amended Claim 97 to improve clarity and for consistency with the newly added claims.

Newly added independent claim 102 includes a limitation that specifies that the non-native protocol used for communications between the user device and the call server provides information on call quality. Support for this limitation may be found in Applicants' specification at page 16, line 17 to page 17, line 7, for example. The information on call quality may be used to select a particular codec, for example. Support for the remainder of claim 102 may be found throughout the specification.

Newly added independent claim 109 includes a limitation that specifies that the call server includes a call director operable to determine whether the user device has used up a maximum number of minutes. Support for this limitation may be found at page 15, lines 1-18, for example. An additional limitation in claim 109 specifies that media is communicated between the user device and the gateway according to Real Time Protocol over User Datagram Protocol. Support for this limitation may be found at page 22, line 17 to page 24, line 11 ("Call Operation: First

Exemplary Embodiment"); page 10, line 12 to page 11, line 2; and page 26, line 21 to page 27, line 8, for example. Support for the remainder of claim 109 may be found throughout the specification.

Independent claim 109 provides several advantages. First, the use of a call director that determines whether the user device has used up a maximum number of minutes is valuable for both real-time and pre-paid billing applications for the PTSP. By placing the call director as described in the call signaling path, a disconnect message to the gateway can be sent if an end user has used up a maximum number of minutes while in a call.

Alternatively, if the end user has no more minutes available, then the call director can reject the call request. If the call is authorized and accepted, then media can flow in a native protocol directly between the user device and gateway, which may be preferred if there are no firewalls and the network quality is good between the user device and the gateway. These advantages are uniquely realized through the combination of elements described in independent claim 109.

A detailed explanation of some of the advantages offered by Applicants' unique use of native and non-native protocols for communicating media and call-control data over different sections of Applicants' system can be found in Applicants' Response to Office Action Mailed March 28, 2005, which Applicants filed on September 20, 2005. That discussion is incorporated by reference herein in its entirety.

Differences Between Applicants' Technology and the Cited References

The Office Action mailed on December 30, 2005 rejected claims 92-98 under 35 U.S.C. §103(a) as being unpatentable over various combinations of four cited references and material contained in Applicants' background section. Applicants now highlight differences between those

cited references and the invention set forth in claims 92-98 as amended and new claims 99-116, in to obtain allowance of those claims.

Gorman et al. (U.S. Patent No. 6,711,417):

Gorman is directed to interfacing a wireless cellular communication network, mobile switching centers, and a wireless device with a public switched telephone network. (Abstract.) Gorman accomplishes this by using an integrated services hub (ISH) and a service manager. *Id.* The ISH receives RF communications through an antenna having coverage over a pico cell. *Id.* Upon receiving these RF communications from the wireless device, the ISH converts the RF communications into control and data signals for a broadband network. *Id.* The service manager is responsible for signaling the mobile switching centers to perform hand-offs of the wireless device from one cell to the next in the wireless network. *Id.*

Gorman has no reason to teach techniques for dealing with Internet firewalls that may be present on the system because the system of Gorman is described as being applicable to wireless cellular-based devices, rather than user devices located on the Internet. (Note that each of Applicants' independent claims include language that calls for the user device to be located on or connected to the Internet.) Instead, the user device described in Gorman is a wireless device located in a pico cell provided by the ISH. See, e.g., Figures 2 and 3 of Gorman, and the Gorman abstract, where Gorman states "... the ISH receives RF communications from the wireless device and converts the RF communications into control and data signals ..." Unlike the RF communication between the wireless device and ISH, communication through a firewall and across the Internet may require use of specific protocols and ports for the non-native protocol, which Gorman's invention does not address, but is solved by Applicants' technology.

"Applicants Admitted Prior Art (AAPA)":

The Examiner cited Applicants' Specification at page 3, second paragraph, as teaching a downloadable client. The legacy application and telephony gateway protocol software discussed in Applicants' background section suffers from problems that Applicants' claimed invention attempts to solve. For example, the legacy client interfaces directly with the gateway and thus includes a telephony gateway protocol stack. There is no discussion in Applicants' background about the legacy application and telephony gateway protocol software communicating call control information with a call server, such as one associated with a Packet-switched Telephony Service Provider (PTSP). Instead, the limited text associated with this reference would seem to imply just the opposite – that communications (including call control information) are directly with the gateway. This requires new downloads as telephony gateway protocol standards change. In addition, the use of native protocols (e.g. H.323, SIP, and MGCP) does not address firewall circumvention, in contrast to Applicants' claimed invention, or the ability to measure call quality through a proprietary or non-native protocol.

Thomas (U.S. Patent No. 6,751,652):

The Office Action cited Thomas as teaching determining if a call request is authorized. Thomas consistently assumes that the user device communicates media packets directly with the gateway, if the call is authorized via the various proxy methods described. In addition, Thomas provides no teaching to account for a user device communicating call control data across the Internet (or any other packet-switched network) with a call server using a non-native protocol, and in which the call server communicates with a gateway using a native protocol.

Gilbert (U.S. Patent No. 6,968,385) and Lamkin et al. (U.S. Patent No. 6,026,290):

The Examiner cited Lamkin as teaching in its entirety the well known implementation of a call logger. The Examiner cited Gilbert as teaching in its entirety the well known implementation of a database verification unit. Applicants respectfully submit that the call logger and database verification unit are different from those utilized in Applicants' system. For example, Gilbert teaches a system unrelated to packet-switched telephony, in which limited temporary access is provided to a prospective user and, after a certain number of attempts or after a certain duration, the prospective user is permanently denied access. Lamkin is directed to logging calls in a wireless telecommunications system, rather than in a packet-switched telephony scenario. Applicants' invention solves an important billing problem for Packet-switched Telephony Service Providers, which is not addressed by either Gilbert or Lamkin. Specifically, the service provider should track calls to allow billing for VoIP calls originated on a user device and terminated at a gateway. Applicants' invention of using call control in a non-native protocol and converting the non-native protocol to a native protocol, and logging the call together provides a novel solution to the billing problems faced by Packet-switched Telephony Service Providers.

Rejections under 35 U.S.C. § 103(a)

a. Gorman et al. in view of AAPA, Lamkin et al., and Gilbert:

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art,

and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (*See* M.P.E.P. 2142.)

Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to combine the references. The motivation "in order to make the system more versatile and secure" is without any basis. The references themselves do not establish this motivation, nor did the Examiner provide any other source for such a motivation. Applicants respectfully submit that the motivation is so vague and unsupported that Applicants are unable to respond appropriately. (For example, any combination of references is likely to result in the combination being more "versatile" than any the system of any one reference.)

Applicants respectfully submit that even if one of ordinary skill in the art would have been motivated to make the four-reference combination proposed by the examiner, one still would not have arrived at the claimed invention, because the prior art combination does not teach or suggest all of the requirements of the claimed invention. In particular, Applicants' claimed invention includes functionality that solves issues associated with penetrating firewalls that may sit on the Internet between the user device and the Packet-switched Telephony Service Provider (PTSP). These firewall issues can prevent packets from reaching the end users, or the first call request from reaching the PTSP if standard native protocol ports are utilized.

For example, Claim 92 as amended now includes at least two limitations that may address firewall issues. First, since the user device is located on the Internet (not the case with the Gorman), by communicating both media and call-control data in a non-native protocol, the call client and PTSP can format proprietary messages using formats or ports (e.g. HTTP or port 443) that are allowed to pass through open ports. Second, Claim 92 now also calls for a port scan

module to identify Internet Protocol ports that are open for communication. Similarly, new independent Claims 102 and 109 also specify that at least call-control data is communicated across the Internet between the call server and the user device using a non-native protocol. Again, Gorman has no need for firewall circumvention because the ISH and user device are not communicating over the Internet. So while Gorman may use a *proprietary* protocol for its cellular communications, it does not use a non-native protocol as that term is used in Applicants' specification.

Applicants new independent Claims 102 and 109 also include additional limitations not present in the combination of Gorman et al., AAPA, Lamkin et al., and Gilbert. For example, claim 102 includes a limitation that specifies that the non-native protocol used for communications between the user device and the call server provides information on call quality. Claim 109 includes a limitation that specifies that the call server includes a call director operable to determine whether the user device has used up a maximum number of minutes. An additional limitation in claim 109 specifies that media is communicated between the user device and the gateway according to Real Time Protocol over User Datagram Protocol.

b. Gorman et al. in view of AAPA, Lamkin et al., Gilbert, and Thomas.

Applicants respectfully submit that Thomas fails to provide any teaching missing from the combination of Gorman et al., AAPA, Lamkin et al., and Gilbert. Thomas does not account for a user device communicating across the Internet (or any other packet-switched network) using a non-native protocol. Thomas is instead directed to providing clearinghouse services to client devices in an IP telephony system.

Applicants' new dependent claims

For the reasons stated above, Applicants respectfully submit that independent claims 92, 102, and 109 are now in condition for allowance. Because all of the dependent claims include the respective limitations of the independent claims, the dependent claims should also be allowed by virtue of their dependencies. In addition, the dependent claims add limitations not found in the cited references.

Conclusion

In light of the above amendments and remarks, Applicants submit that the present application is in condition for allowance and respectfully request notice to this effect. The Examiner is requested to contact Applicants' representative below if any questions arise or he may be of assistance.

Respectfully submitted,

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By: 

Marcus J. Thymian
Reg. No. 43,954
McDonnell Boehnen Hulbert & Berghoff LLP
300 South Wacker Drive
Chicago, Illinois 60606-6709
312 935 2352
thymian@mbhb.com